

## AMENDMENT

### **In the Claims:**

The present amendment cancels claims 185, 190 and 194, amends claims 110-113, 116-143, 149-152, 157-164, 167-172, 174-184, 186-189, 191-193, 195-198, 203-208, 215 and 216, and adds claims 217 and 218. According to 37 C.F.R. § 1.121(c), after entry of the present amendment, the following claims are in the case:

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110. (Currently Amended) An isolated nucleic acid molecule comprising a nucleic acid sequence that encodes:

- (a) a polypeptide having the amino acid sequence of SEQ ID NO:2; ~~or~~
- (b) ~~a polypeptide that comprises a contiguous sequence of at least 16 amino acids from SEQ ID NO:4, of at least 20 amino acids from SEQ ID NO:45, of at least 20 amino acids from SEQ ID NO:47 or of at least 125 amino acids from SEQ ID NO:50.~~

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111. (Currently Amended) ~~The~~ An isolated nucleic acid ~~molecule of claim 110, comprising~~ consisting of a nucleic acid ~~sequence~~ that encodes a polypeptide having the amino acid sequence of ~~SEQ ID NO:2~~ SEQ ID NO:4, a nucleic acid that encodes the amino acid sequence of SEQ ID NO:45, a nucleic acid that encodes the amino acid sequence of SEQ ID NO:47 or a nucleic acid that encodes the amino acid sequence of SEQ ID NO:50.

112. (Currently Amended) The isolated nucleic acid molecule of claim ~~111~~ 110, comprising a nucleic acid sequence that has the nucleotide sequence from position 115 to position 1327 of SEQ ID NO:1.

113. (Currently Amended) ~~An~~ A fragment of the isolated nucleic acid ~~molecule comprising a nucleic acid sequence that~~ of claim 111, wherein said fragment encodes ~~a polypeptide that comprises a contiguous sequence of~~ at least 16 contiguous amino acids ~~from~~ of SEQ ID NO:4, ~~of~~ at least 20 contiguous amino acids ~~from~~ of SEQ ID NO:45, ~~of~~ at least 20 contiguous amino acids ~~from~~ of SEQ ID NO:47 or ~~of~~ at least 125 contiguous amino acids ~~from~~ of SEQ ID NO:50.

**Claims 114 and 115 canceled**

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116. (Currently Amended) The ~~isolated nucleic acid molecule~~ fragment of claim 113, ~~comprising a nucleic acid sequence that~~ wherein said fragment encodes ~~a polypeptide that comprises a contiguous sequence of~~ at least 25 contiguous amino acids ~~from~~ of SEQ ID NO:4, SEQ ID NO:45 or SEQ ID NO:47.

117. (Currently Amended) The ~~isolated nucleic acid molecule~~ fragment of claim 116, ~~comprising a nucleic acid sequence that~~ wherein said fragment encodes ~~a polypeptide that comprises a contiguous sequence of~~ at least about 30 contiguous amino acids ~~from~~ of SEQ ID NO:4, SEQ ID NO:45 or SEQ ID NO:47.

118. (Currently Amended) The ~~isolated nucleic acid molecule~~ fragment of claim 117, ~~comprising a nucleic acid sequence that~~ wherein said fragment encodes ~~a polypeptide that~~

~~comprises a contiguous sequence of~~ at least about 40 contiguous amino acids ~~from of~~ SEQ ID NO:4, SEQ ID NO:45 or SEQ ID NO:47.

119. (Currently Amended) The ~~isolated nucleic acid molecule~~ fragment of claim 118, ~~comprising a nucleic acid sequence that~~ wherein said fragment encodes a ~~polypeptide that~~ ~~comprises a contiguous sequence of~~ at least about 50 contiguous amino acids ~~from of~~ SEQ ID NO:4, SEQ ID NO:45 or SEQ ID NO:47.

120. (Currently Amended) The ~~isolated nucleic acid molecule~~ fragment of claim 119, ~~comprising a nucleic acid sequence that~~ wherein said fragment encodes a ~~polypeptide that~~ ~~comprises a contiguous sequence of~~ at least about 60 contiguous amino acids ~~from of~~ SEQ ID NO:4, SEQ ID NO:45 or SEQ ID NO:47.

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121. (Currently Amended) The ~~isolated nucleic acid molecule~~ fragment of claim 120, ~~comprising a nucleic acid sequence that~~ wherein said fragment encodes a ~~polypeptide that~~ ~~comprises a contiguous sequence of~~ at least about 70 contiguous amino acids ~~from of~~ SEQ ID NO:4, SEQ ID NO:45 or SEQ ID NO:47.

122. (Currently Amended) The ~~isolated nucleic acid molecule~~ fragment of claim 121, ~~comprising a nucleic acid sequence that~~ wherein said fragment encodes a ~~polypeptide that~~ ~~comprises a contiguous sequence of~~ at least about 80 contiguous amino acids ~~from of~~ SEQ ID NO:4, SEQ ID NO:45 or SEQ ID NO:47.

123. (Currently Amended) The ~~isolated nucleic acid molecule~~ fragment of claim 122, ~~comprising a nucleic acid sequence that~~ wherein said fragment encodes a ~~polypeptide that~~ comprises a contiguous sequence of at least about 90 contiguous amino acids ~~from~~ of SEQ ID NO:4, SEQ ID NO:45 or SEQ ID NO:47.

124. (Currently Amended) The ~~isolated nucleic acid molecule~~ fragment of claim 123, ~~comprising a nucleic acid sequence that~~ wherein said fragment encodes a ~~polypeptide that~~ comprises a contiguous sequence of at least about 100 contiguous amino acids ~~from~~ of SEQ ID NO:4, SEQ ID NO:45 or SEQ ID NO:47.

125. (Currently Amended) The ~~isolated nucleic acid molecule~~ fragment of claim 124, ~~comprising a nucleic acid sequence that~~ wherein said fragment encodes a ~~polypeptide that~~ comprises a contiguous sequence of at least 125 contiguous amino acids ~~from~~ of SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50.

126. (Currently Amended) The ~~isolated nucleic acid molecule~~ fragment of claim 125, ~~comprising a nucleic acid sequence that~~ wherein said fragment encodes a ~~polypeptide that~~ comprises a contiguous sequence of at least about 150 contiguous amino acids ~~from~~ of SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50.

127. (Currently Amended) The ~~isolated nucleic acid molecule~~ fragment of claim 126, ~~comprising a nucleic acid sequence that~~ wherein said fragment encodes a ~~polypeptide that~~

~~comprises a contiguous sequence of~~ at least about 200 contiguous amino acids ~~from~~ of SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50.

128. (Currently Amended) ~~The~~ An isolated nucleic acid molecule ~~of claim 127,~~ comprising a nucleic acid sequence that encodes a polypeptide ~~that comprises~~ having the amino acid sequence of SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50.

129. (Currently Amended) The isolated nucleic acid molecule of claim 128, comprising a nucleic acid sequence that encodes a polypeptide ~~that comprises~~ having the amino acid sequence of SEQ ID NO:4.

E 130. (Currently Amended) The isolated nucleic acid molecule of claim 128, comprising a nucleic acid sequence that encodes a polypeptide ~~that comprises~~ having the amino acid sequence of SEQ ID NO:45.

131. (Currently Amended) The isolated nucleic acid molecule of claim 128, comprising a nucleic acid sequence that encodes a polypeptide ~~that comprises~~ having the amino acid sequence of SEQ ID NO:47.

132. (Currently Amended) The isolated nucleic acid molecule of claim 128, comprising a nucleic acid sequence that encodes a polypeptide ~~that comprises~~ having the amino acid sequence of SEQ ID NO:50.

133. (Currently Amended) The ~~isolated nucleic acid molecule~~ fragment of claim 113, wherein said ~~nucleic acid sequence~~ fragment is operatively positioned under the control of a promoter.

134. (Currently Amended) ~~The isolated nucleic acid molecule of claim 133, further defined as a recombinant~~ A vector comprising the fragment of claim 113.

135. (Currently Amended) The ~~isolated nucleic acid molecule~~ vector of claim ~~133~~ 134, comprised within a recombinant host cell.

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136. (Currently Amended) The ~~isolated nucleic acid molecule~~ fragment of claim 113, wherein said ~~nucleic acid sequence~~ fragment is operatively attached to a ~~second~~ distinct, selected nucleic acid coding region that encodes a distinct, selected peptide or protein sequence so that said ~~isolated nucleic acid molecule encodes~~ fragment and said distinct, selected nucleic acid coding region encode a fusion protein.

137. (Currently Amended) An isolated nucleic acid molecule comprising a nucleic acid sequence that encodes a P-TEFb large subunit protein, wherein said P-TEFb large subunit protein binds to a P-TEFb kinase subunit protein having the sequence of SEQ ID NO:2 or SEQ ID NO:6 to form a P-TEFb enzyme complex that promotes transcription elongation and wherein said nucleic acid molecule comprises ~~the~~ a nucleotide sequence of:

the coding sequence of a cDNA molecule present in a nucleic acid library, wherein the cDNA molecule hybridizes to a ~~probe~~ target nucleic acid having the sequence of the full complement of SEQ ID NO:3, SEQ ID NO:43 or SEQ ID NO:48 under conditions of

high stringency comprising hybridization in 50% formamide, 5× Denhardts' solution, 5× SSC, 25 mM sodium phosphate, 0.1% SDS and 100 µg/ml of denatured salmon sperm DNA at 42°C for 16 h followed by 1h sequential washes with 0.1× SSC, 0.1% SDS solution at 60°C.

138. (Currently Amended) The isolated nucleic acid molecule of claim 137, wherein the nucleic acid molecule encodes a P-TEFb large subunit protein as defined in claim 137 and wherein the nucleic acid sequence of the isolated nucleic acid molecule comprises a nucleotide sequence of at least 21 contiguous nucleotides present in SEQ ID NO:3, SEQ ID NO:43 or SEQ ID NO:48.

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139. (Currently Amended) The isolated nucleic acid molecule of claim 138, wherein the nucleic acid molecule encodes a P-TEFb large subunit protein as defined in claim 137 and wherein the nucleic acid sequence of the isolated nucleic acid molecule comprises a nucleotide sequence of at least 30 contiguous nucleotides present in SEQ ID NO:3, SEQ ID NO:43 or SEQ ID NO:48.

140. (Currently Amended) The isolated nucleic acid molecule of claim 139, wherein the nucleic acid molecule encodes a P-TEFb large subunit protein as defined in claim 137 and wherein the nucleic acid sequence of the isolated nucleic acid molecule comprises a nucleotide sequence of at least 40 contiguous nucleotides present in SEQ ID NO:3, SEQ ID NO:43 or SEQ ID NO:48.

141. (Currently Amended) The isolated nucleic acid molecule of claim 140, wherein the nucleic acid molecule encodes a P-TEFb large subunit protein as defined in claim 137 and wherein the nucleic acid sequence of the isolated nucleic acid molecule comprises a nucleotide sequence of at least 50 contiguous nucleotides present in SEQ ID NO:3, SEQ ID NO:43 or SEQ ID NO:48.

142. (Currently Amended) The isolated nucleic acid molecule of claim 141, wherein the nucleic acid molecule encodes a P-TEFb large subunit protein as defined in claim 137 and wherein the nucleic acid sequence of the isolated nucleic acid molecule comprises a nucleotide sequence of at least 60 contiguous nucleotides present in SEQ ID NO:3, SEQ ID NO:43 or SEQ ID NO:48.

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143. (Currently Amended) The isolated nucleic acid molecule of claim 142, wherein the nucleic acid molecule encodes a P-TEFb large subunit protein as defined in claim 137 and wherein the nucleic acid sequence of the isolated nucleic acid molecule comprises a nucleotide sequence of at least 72 contiguous nucleotides present in SEQ ID NO:3, SEQ ID NO:43 or SEQ ID NO:48.

144. (Previously Added) The isolated nucleic acid molecule of claim 137, wherein the nucleic acid molecule has the nucleotide sequence of SEQ ID NO:44.

145. (Previously Added) The isolated nucleic acid molecule of claim 137, wherein the nucleic acid molecule has the nucleotide sequence of SEQ ID NO:46.



146. (Previously Added) The isolated nucleic acid molecule of claim 137, wherein the nucleic acid molecule has the nucleotide sequence of SEQ ID NO:49.

147. (Previously Added) The isolated nucleic acid molecule of claim 137, wherein the nucleic acid molecule is up to about 10,000 basepairs in length.

148. (Previously Added) The isolated nucleic acid molecule of claim 147, wherein the nucleic acid molecule is up to about 5,000 basepairs in length.

149. (Currently Amended) An isolated nucleic acid molecule comprising a nucleic acid sequence that encodes a P-TEFb large subunit protein that exhibits at least 90% identity to the amino acid sequence set forth in SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50, wherein said P-TEFb large subunit protein binds to a P-TEFb kinase subunit protein having the sequence of SEQ ID NO:2 or SEQ ID NO:6 to form a P-TEFb enzyme complex that promotes transcription elongation.

150. (Previously Added) The isolated nucleic acid molecule of claim 149, wherein the encoded polypeptide exhibits between 91% and about 95% identity to the amino acid sequence set forth in SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50.

151. (Previously Added) The isolated nucleic acid molecule of claim 150, wherein the encoded polypeptide exhibits between 96% and about 99% identity to the amino acid sequence set forth in SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50.

152. (Currently Amended) An isolated nucleic acid molecule comprising:

- (a) a first nucleic acid sequence that encodes a P-TEFb small subunit protein that has kinase activity and binds to a P-TEFb large subunit protein of SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50 to form a P-TEFb enzyme complex that promotes transcription elongation, wherein said P-TEFb small subunit protein ~~exhibits at least 90% identity to~~ has the amino acid sequence ~~set forth in~~ of SEQ ID NO:2 or SEQ ID NO:6; and
- (b) a second nucleic acid sequence that encodes a P-TEFb large subunit protein that binds to a P-TEFb kinase subunit protein of SEQ ID NO:2 or SEQ ID NO:6 to form a P-TEFb enzyme complex that promotes transcription elongation, wherein said P-TEFb large subunit protein exhibits at least 90% identity to the amino acid sequence set forth in SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50.

153. (Previously Added) The isolated nucleic acid molecule of claim 152, wherein said first nucleic acid sequence encodes a polypeptide having the amino acid sequence of SEQ ID NO:6.

154. (Previously Added) The isolated nucleic acid molecule of claim 152, wherein said second nucleic acid sequence encodes a polypeptide that has the amino acid sequence of SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50.

155. (Previously Added) The isolated nucleic acid molecule of claim 154, wherein said second nucleic acid sequence has the nucleotide sequence of SEQ ID NO:44, SEQ ID NO:46 or SEQ ID NO:49.

156. (Previously Added) The isolated nucleic acid molecule of claim 152, wherein said first nucleic acid sequence has the nucleotide sequence of SEQ ID NO:5 and wherein said second nucleic acid sequence has the nucleotide sequence of SEQ ID NO:44, SEQ ID NO:46 or SEQ ID NO:49.

157. (Currently Amended) ~~An expression system~~ One or more expression units comprising:

- (a) a first expression unit comprising, under the transcriptional control of a promoter, a first nucleic acid sequence that encodes a P-TEFb small subunit protein that has kinase activity and binds to a P-TEFb large subunit protein of SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50 to form a P-TEFb enzyme complex that promotes transcription elongation, wherein said P-TEFb small subunit protein ~~exhibits at least 90% identity to~~ has the amino acid sequence ~~set forth in~~ of SEQ ID NO:2 or SEQ ID NO:6; and
- (b) a second expression unit comprising, under the transcriptional control of a promoter, a second nucleic acid sequence as defined in claim 137 or claim 149.

158. (Currently Amended) The ~~expression system~~ one or more expression units of claim 157 218, wherein said first expression unit comprises a first nucleic acid sequence that encodes a ~~polypeptide that~~ P-TEFb small subunit protein that has kinase activity and binds to a P-TEFb large subunit protein of SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50 to form a P-TEFb enzyme complex that promotes transcription elongation, wherein said P-TEFb small subunit protein exhibits at least 90% identity to the amino acid sequence set forth in SEQ ID NO:2 or SEQ ID NO:6 and comprises a contiguous sequence of at least about 18 amino acids from SEQ ID NO:2 or SEQ ID NO:6.

159. (Currently Amended) The ~~expression system~~ one or more expression units of claim 158, wherein said first expression unit comprises a first nucleic acid sequence that encodes a ~~polypeptide that~~ P-TEFb small subunit protein that has kinase activity and binds to a P-TEFb large subunit protein of SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50 to form a P-TEFb enzyme complex that promotes transcription elongation, wherein said P-TEFb small subunit protein exhibits at least 90% identity to the amino acid sequence set forth in SEQ ID NO:2 or SEQ ID NO:6 and comprises a contiguous sequence of at least about 20 amino acids from SEQ ID NO:2 or SEQ ID NO:6.

160. (Currently Amended) The ~~expression system~~ one or more expression units of claim 159, wherein said first expression unit comprises a first nucleic acid sequence that encodes a ~~polypeptide that~~ P-TEFb small subunit protein that has kinase activity and binds to a P-TEFb large subunit protein of SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50 to

form a P-TEFb enzyme complex that promotes transcription elongation, wherein said P-TEFb small subunit protein exhibits at least 90% identity to the amino acid sequence set forth in SEQ ID NO:2 or SEQ ID NO:6 and comprises a contiguous sequence of at least about 50 amino acids from SEQ ID NO:2 or SEQ ID NO:6.

161. (Currently Amended) The ~~expression system~~ one or more expression units of claim 160, wherein said first expression unit comprises a first nucleic acid sequence that encodes a ~~polypeptide that~~ P-TEFb small subunit protein that has kinase activity and binds to a P-TEFb large subunit protein of SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50 to form a P-TEFb enzyme complex that promotes transcription elongation, wherein said P-TEFb small subunit protein exhibits at least 90% identity to the amino acid sequence set forth in SEQ ID NO:2 or SEQ ID NO:6 and comprises a contiguous sequence of at least about 100 amino acids from SEQ ID NO:2 or SEQ ID NO:6.

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162. (Currently Amended) The ~~expression system~~ one or more expression units of claim 161, wherein said first expression unit comprises a first nucleic acid sequence that encodes a polypeptide that has the amino acid sequence of ~~SEQ ID NO:2~~ SEQ ID NO:6.

163. (Currently Amended) The ~~expression system~~ one or more expression units of claim ~~161~~ 157, wherein said first expression unit comprises a first nucleic acid sequence that encodes a polypeptide that has the amino acid sequence of SEQ ID NO:6.

164. (Currently Amended) The ~~expression system~~ one or more expression units of claim 157, wherein said second expression unit comprises a second nucleic acid sequence that encodes a ~~polypeptide~~ P-TEFb large subunit protein as defined in claim 137 and that comprises a contiguous sequence of at least 16 amino acids from SEQ ID NO:4, of at least 20 amino acids from SEQ ID NO:45, of at least 20 amino acids from SEQ ID NO:47 or of at least 125 amino acids from SEQ ID NO:50.

**Claims 165 and 166 canceled**

167. (Currently Amended) The ~~expression system~~ one or more expression units of claim ~~166~~ 164, wherein said second expression unit comprises a second nucleic acid sequence that encodes a ~~polypeptide~~ P-TEFb large subunit protein as defined in claim 137 and that comprises a contiguous sequence of at least about 50 amino acids from SEQ ID NO:4, SEQ ID NO:45 or SEQ ID NO:47.

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168. (Currently Amended) The ~~expression system~~ one or more expression units of claim 167, wherein said second expression unit comprises a second nucleic acid sequence that encodes a ~~polypeptide~~ P-TEFb large subunit protein as defined in claim 137 and that comprises a contiguous sequence of at least about 100 amino acids from SEQ ID NO:4, SEQ ID NO:45 or SEQ ID NO:47.

169. (Currently Amended) The ~~expression system~~ one or more expression units of claim 168, wherein said second expression unit comprises a second nucleic acid sequence that encodes a ~~polypeptide~~ P-TEFb large subunit protein as defined in claim 137 and that has the amino acid sequence of SEQ ID NO:4.

170. (Currently Amended) The ~~expression system~~ one or more expression units of claim 168, wherein said second expression unit comprises a second nucleic acid sequence that encodes a ~~polypeptide~~ P-TEFb large subunit protein as defined in claim 137 and that has the amino acid sequence of SEQ ID NO:45.

171. (Currently Amended) The ~~expression system~~ one or more expression units of claim 168, wherein said second expression unit comprises a second nucleic acid sequence that encodes a ~~polypeptide~~ P-TEFb large subunit protein as defined in claim 137 and that has the amino acid sequence of SEQ ID NO:47.

172. (Currently Amended) The ~~expression system~~ one or more expression units of claim 168, wherein said second expression unit comprises a second nucleic acid sequence that encodes a ~~polypeptide~~ P-TEFb large subunit protein as defined in claim 137 and that has the amino acid sequence of SEQ ID NO:50.

**Claim 173 canceled**

174. (Currently Amended) The ~~expression system~~ one or more expression units of claim 168, wherein said second expression unit comprises a second nucleic acid sequence that has the nucleotide sequence of SEQ ID NO:44.

175. (Currently Amended) The ~~expression system~~ one or more expression units of claim 168, wherein said second expression unit comprises a second nucleic acid sequence that has the nucleotide sequence of SEQ ID NO:46.

176. (Currently Amended) The ~~expression system~~ one or more expression units of claim 168, wherein said second expression unit comprises a second nucleic acid sequence that has the nucleotide sequence of SEQ ID NO:49.

177. (Currently Amended) The ~~expression system~~ one or more expression units of claim 157, wherein said second expression unit comprises a second nucleic acid sequence that encodes a ~~polypeptide~~ P-TEFb large subunit protein as defined in claim 149 and that exhibits between 91% and about 95% identity to the amino acid sequence set forth in SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50.

178. (Currently Amended) The ~~expression system~~ one or more expression units of claim 157, wherein said first and said second expression units are comprised in a single expression vector.

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179. (Currently Amended) The ~~expression system~~ one or more expression units of claim 157, wherein said first and said second expression units are each comprised in a separate expression vector.

180. (Currently Amended) The ~~expression system~~ one or more expression units of claim 157, wherein said ~~expression system is~~ one or more expression units are comprised within a recombinant host cell.



181. (Currently Amended) ~~An expression system~~ One or more expression units comprising:

- (a) a first expression unit comprising, under the transcriptional control of a promoter, a first nucleic acid sequence that encodes a ~~polypeptide and that~~ P-TEFb small subunit protein that has kinase activity and binds to a P-TEFb large subunit protein of SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50 to form a P-TEFb enzyme complex that promotes transcription elongation, wherein said first nucleic acid sequence comprises the nucleotide sequence of the coding sequence of a cDNA molecule present in a nucleic acid library, wherein the cDNA molecule hybridizes to a ~~probe~~ target nucleic acid having the sequence of the full complement of SEQ ID NO:1 or SEQ ID NO:5 under conditions of high stringency comprising hybridization in 50% formamide, 5× Denhardts' solution, 5× SSC, 25 mM sodium phosphate, 0.1% SDS and 100 µg/ml of denatured salmon sperm DNA at 42°C for 16 h followed by 1h sequential washes with 0.1× SSC, 0.1% SDS solution at 60°C; and
- (b) a second expression unit comprising, under the transcriptional control of a promoter, a second nucleic acid sequence ~~as defined in claim 137 or claim 149~~ that encodes a P-TEFb large subunit protein that binds to a P-TEFb kinase subunit protein of SEQ ID NO:2 or SEQ ID NO:6 to form a P-TEFb enzyme complex that promotes transcription elongation, wherein said P-TEFb large subunit protein has the amino acid sequence of SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50.

182. (Currently Amended) The ~~expression system~~ one or more expression units of claim 181, wherein said first expression unit comprises a first nucleic acid sequence that encodes a P-TEFb small subunit protein that has kinase activity and binds to a P-TEFb large subunit protein of SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50 to form a P-TEFb enzyme complex that promotes transcription elongation, wherein said first nucleic acid sequence comprises the nucleotide sequence of the coding sequence of a cDNA molecule present in a nucleic acid library, wherein the cDNA molecule hybridizes to a ~~probe~~ target nucleic acid having the sequence of the full complement of SEQ ID NO:5 under said conditions of high stringency.

183. (Currently Amended) The ~~expression system~~ one or more expression units of claim 181, wherein said first expression unit comprises a first nucleic acid sequence that encodes a P-TEFb small subunit protein that has kinase activity and binds to a P-TEFb large subunit protein of SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50 to form a P-TEFb enzyme complex that promotes transcription elongation, wherein said first nucleic acid sequence comprises the nucleotide sequence of the coding sequence of a cDNA molecule present in a nucleic acid library, wherein the cDNA molecule hybridizes to a ~~probe~~ target nucleic acid having the sequence of the full complement of the nucleotide sequence from position 115 to position 1327 of SEQ ID NO:1 under said conditions of high stringency.

184. (Currently Amended) The ~~expression system~~ one or more expression units of claim 181, wherein said first expression unit comprises a first nucleic acid sequence that encodes a P-TEFb small subunit protein that has kinase activity and binds to a P-TEFb large subunit protein of SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50 to form a P-TEFb enzyme

complex that promotes transcription elongation, wherein said first nucleic acid sequence has the nucleotide sequence of SEQ ID NO:5.

**Claim 185 cancelled**

186. (Currently Amended) The ~~expression system~~ one or more expression units of claim ~~185~~ 181, wherein said second expression unit comprises a second nucleic acid sequence that encodes a ~~polypeptide that~~ P-TEFb large subunit protein that binds to a P-TEFb kinase subunit protein of SEQ ID NO:2 or SEQ ID NO:6 to form a P-TEFb enzyme complex that promotes transcription elongation, wherein said P-TEFb large subunit protein has the amino acid sequence of SEQ ID NO:4.

E' 187. (Currently Amended) The ~~expression system~~ one or more expression units of claim ~~185~~ 181, wherein said second expression unit comprises a second nucleic acid sequence that encodes a ~~polypeptide that~~ P-TEFb large subunit protein that binds to a P-TEFb kinase subunit protein of SEQ ID NO:2 or SEQ ID NO:6 to form a P-TEFb enzyme complex that promotes transcription elongation, wherein said P-TEFb large subunit protein has the amino acid sequence of SEQ ID NO:45.

188. (Currently Amended) The ~~expression system~~ one or more expression units of claim ~~185~~ 181, wherein said second expression unit comprises a second nucleic acid sequence that encodes a ~~polypeptide that~~ P-TEFb large subunit protein that binds to a P-TEFb kinase subunit protein of SEQ ID NO:2 or SEQ ID NO:6 to form a P-TEFb enzyme complex that promotes transcription elongation, wherein said P-TEFb large subunit protein has the amino acid sequence of SEQ ID NO:47.

189. (Currently Amended) The ~~expression system~~ one or more expression units of claim ~~185~~ 181, wherein said second expression unit comprises a second nucleic acid sequence that encodes a ~~polypeptide that~~ P-TEFb large subunit protein that binds to a P-TEFb kinase subunit protein of SEQ ID NO:2 or SEQ ID NO:6 to form a P-TEFb enzyme complex that promotes transcription elongation, wherein said P-TEFb large subunit protein has the amino acid sequence of SEQ ID NO:50.

**Claim 190 cancelled**

191. (Currently Amended) The ~~expression system~~ one or more expression units of claim ~~190~~ 181, wherein said second expression unit comprises a second nucleic acid sequence that has the nucleotide sequence of SEQ ID NO:44.

E1 192. (Currently Amended) The ~~expression system~~ one or more expression units of claim ~~190~~ 181, wherein said second expression unit comprises a second nucleic acid sequence that has the nucleotide sequence of SEQ ID NO:46.

193. (Currently Amended) The ~~expression system~~ one or more expression units of claim ~~190~~ 181, wherein said second expression unit comprises a second nucleic acid sequence that has the nucleotide sequence of SEQ ID NO:49.

**Claim 194 cancelled**

195. (Currently Amended) The ~~expression system~~ one or more expression units of claim 181, wherein said first and said second expression units are comprised in a single expression vector.

196. (Currently Amended) The ~~expression system~~ one or more expression units of claim 181, wherein said first and said second expression units are each comprised in a separate expression vector.

197. (Currently Amended) The ~~expression system~~ one or more expression units of claim 181, wherein said ~~expression system is~~ one or more expression units are comprised within a recombinant host cell.

198. (Currently Amended) A recombinant host cell comprising an isolated nucleic acid molecule in accordance with claim 110, ~~claim 113~~, claim 137, claim 149 or claim 152, or comprising a fragment of an isolated nucleic acid in accordance with claim 113.

E 199. (Previously Added) The recombinant host cell of claim 198, wherein said cell is a prokaryotic host cell.

200. (Previously Added) The recombinant host cell of claim 198, wherein said cell is a eukaryotic host cell.

201. (Previously Added) The recombinant host cell of claim 200, wherein said cell is a mammalian host cell.

202. (Previously Added) The recombinant host cell of claim 198, wherein said cell further comprises an HIV Tat protein.

203. (Currently Amended) ~~The A recombinant host cell of claim 198, wherein said cell that~~ comprises an isolated nucleic acid molecule ~~comprising a nucleic acid sequence that encodes:~~

- (a) ~~a polypeptide having the amino acid sequence of SEQ ID NO:2; or~~
- (b) ~~a polypeptide that comprises a contiguous sequence of at least 16 amino acids from SEQ ID NO:4, of at least 20 amino acids from SEQ ID NO:45, of at least 20 amino acids from SEQ ID NO:47 or of at least 125 amino acids from SEQ ID NO:50 in accordance with claim 111.~~

204. (Currently Amended) The recombinant host cell of claim 198, wherein said cell comprises a fragment of an isolated nucleic acid molecule ~~comprising a nucleic acid sequence that encodes a polypeptide that comprises a contiguous sequence of at least 16 amino acids from SEQ ID NO:4, of at least 20 amino acids from SEQ ID NO:45, of at least 20 amino acids from SEQ ID NO:47 or of at least 125 amino acids from SEQ ID NO:50 in accordance with claim 113.~~

205. (Currently Amended) The recombinant host cell of claim 198, wherein said cell comprises an isolated nucleic acid molecule ~~comprising a nucleic acid sequence that encodes a P-TEFb large subunit protein, wherein said P-TEFb large subunit protein binds to a P-TEFb kinase subunit protein to form a P-TEFb enzyme complex that promotes transcription elongation and wherein said nucleic acid molecule comprises the nucleotide sequence of:~~

~~the coding sequence of a cDNA molecule present in a nucleic acid library, wherein the cDNA molecule hybridizes to a probe having the sequence of the complement of SEQ ID NO:3, SEQ ID NO:43 or SEQ ID NO:48 under conditions of high stringency comprising hybridization in 50% formamide, 5× Denhardt's solution, 5× SSC, 25 mM sodium phosphate, 0.1% SDS and 100 µg/ml of denatured salmon sperm DNA at 42°C for 16 h followed by 1h sequential washes with 0.1× SSC, 0.1% SDS solution at 60°C in accordance with claim 137.~~

206. (Currently Amended) The recombinant host cell of claim 198, wherein said cell comprises an isolated nucleic acid molecule ~~comprising a nucleic acid sequence that encodes a P-TEFb large subunit protein that exhibits at least 90% identity to the amino acid sequence set forth in SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50, wherein said P-TEFb large subunit protein binds to a P-TEFb kinase subunit protein to form a P-TEFb enzyme complex that promotes transcription elongation~~ in accordance with claim 149.

207. (Currently Amended) The recombinant host cell of claim 198, wherein said cell comprises an isolated nucleic acid molecule ~~comprising:~~

- (a) ~~a first nucleic acid sequence that encodes a P-TEFb small subunit protein that has kinase activity and binds to a P-TEFb large subunit protein to form a P-TEFb enzyme complex that promotes transcription elongation, wherein said P-TEFb small subunit protein exhibits at least 90% identity to the amino acid sequence set forth in SEQ ID NO:2 or SEQ ID NO:6; and~~

- (b) ~~a second nucleic acid sequence that encodes a P-TEFb large subunit protein that binds to a P-TEFb kinase subunit protein to form a P-TEFb enzyme complex that promotes transcription elongation, wherein said P-TEFb large subunit protein exhibits at least 90% identity to the amino acid sequence set forth in SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50 in accordance with claim 152.~~

208. (Currently Amended) A recombinant host cell that comprises ~~an expression system~~ one or more expression units in accordance with claim 157 or claim 181.

**Claims 209 and 210 canceled**

211. (Previously Added) The recombinant host cell of claim 208, wherein said cell is a prokaryotic host cell.

E!  
Cont 212. (Previously Added) The recombinant host cell of claim 208, wherein said cell is a eukaryotic host cell.

213. (Previously Added) The recombinant host cell of claim 212, wherein said cell is a mammalian host cell.

214. (Previously Added) The recombinant host cell of claim 208, wherein said cell further comprises an HIV Tat protein.



215. (Currently Amended) The recombinant host cell of claim 208, wherein said ~~expression system comprises a first and second expression unit~~ one or more expression units are comprised in a single expression vector.

216. (Currently Amended) The recombinant host cell of claim 208, wherein said ~~expression system comprises a first and second expression unit~~ one or more expression units are each comprised in a separate expression vector.

217. (New) An isolated nucleic acid molecule comprising:

- E'
- (a) a first nucleic acid sequence that encodes a P-TEFb small subunit protein that has kinase activity and binds to a P-TEFb large subunit protein of SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50 to form a P-TEFb enzyme complex that promotes transcription elongation, wherein said P-TEFb small subunit protein exhibits at least 90% identity to the amino acid sequence set forth in SEQ ID NO:2 or SEQ ID NO:6; and
  - (b) a second nucleic acid sequence that encodes a P-TEFb large subunit protein that binds to a P-TEFb kinase subunit protein of SEQ ID NO:2 or SEQ ID NO:6 to form a P-TEFb enzyme complex that promotes transcription elongation, wherein said P-TEFb large subunit protein has the amino acid sequence of SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50.

218. (New) One or more expression units comprising:

- E'
- (a) a first expression unit comprising, under the transcriptional control of a promoter, a first nucleic acid sequence that encodes a P-TEFb small subunit protein that has kinase activity and binds to a P-TEFb large subunit protein of SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50 to form a P-TEFb enzyme complex that promotes transcription elongation, wherein said P-TEFb small subunit protein exhibits at least 90% identity to the amino acid sequence set forth in SEQ ID NO:2 or SEQ ID NO:6; and
  - (b) a second expression unit comprising, under the transcriptional control of a promoter, a second nucleic acid sequence that encodes a P-TEFb large subunit protein that binds to a P-TEFb kinase subunit protein of SEQ ID NO:2 or SEQ ID NO:6 to form a P-TEFb enzyme complex that promotes transcription elongation, wherein said P-TEFb large subunit protein has the amino acid sequence of SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50.
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